

CLAIMS

1) A method of handling and processing blanks (2) for packing tobacco articles, wherein the blanks (2), arranged in groups (5; 61) located in a storage area (3) in a given arrangement, are removed in groups (5; 61) from the storage area (3) and fed along a path (P1) extending through at least one work station (45), where each said blank (2) is subjected to at least one processing operation, and are removed in groups (5; 61) from said path (P1), downstream from said work station (45), to be fed to said storage area (3) and to be formed, in said storage area (3), into a given arrangement; the method being characterized in that said groups (5; 61) are arranged, in said given arrangement, on pallets (4) located in said storage area (3), which comprises an unloading area (11) located at an input end of said path (P1), and a loading area (13) located at an output end of said path (P1); a first pallet (4a), loaded with groups (5; 61) of blanks (2) for processing, being moved into said unloading area (11) to feed the groups (5; 61) along said path (P1); and an initially empty second pallet (4b) being moved into said loading area (13) to receive the groups (5; 61) of processed blanks (2).

2) A method as claimed in Claim 1, wherein the blanks (2) in each said group, as they are fed along said path (P1), are formed into a succession of individual

blanks (2) upstream from said work station (45), and are then regrouped, to reconstruct the relative said group (5; 61), downstream from said work station (45).

3) A method as claimed in Claim 1, wherein each said
5 group (5; 61) comprises a number of blanks (2) superimposed to form a stack (5), from which the blanks (2) are extracted one at a time, and are arranged in series along said path (P1) to be fed, in a succession of individual blanks (2), through said work station (45).

10 4) A method as claimed in Claim 3, wherein the blanks (2) in said succession of individual blanks (2) are regrouped, downstream from said work station (45), to re-form a succession of said stacks (5).

5) A method as claimed in Claim 3, wherein the
15 individual blanks (2) are extracted from each said stack (5) by feeding each said stack (5) into a fixed hopper (35) closed by a movable suction member (38), and by cyclically activating said movable suction member (38).

6) A method as claimed in Claim 5, wherein said
20 movable suction member (38) comprises a drum (38) rotating about a respective axis (39) and having at least one suction sector (40).

7) A method as claimed in Claim 5, wherein said
individual blanks (2) are arranged in series along said
25 path (P1) by moving said movable suction member (38) between positions tangent to said fixed hopper (35) and to a conveyor (41) respectively, and by successively releasing the blanks (2) removed by suction from said

fixed hopper (35) onto said conveyor (41).

8) A method as claimed in Claim 4, wherein regrouping the blanks (2) downstream from said work station (45) comprises a first braking step, wherein the
5 blanks (2) are overlapped and gradually positioned on edge; a second step of feeding the on-edge said blanks (2) into a container (50) to form a said stack (5) inside the container (50); and a third step of unloading said container (50) onto a conveyor unit (55) for conveying
10 stacks (5).

9) A method as claimed in Claim 1, wherein each said group (5; 61) comprises a reel (61) of a strip (62) defined by a number of blanks (2) arranged in series and connected to one another; said reel (61) being unwound
15 along said path (P1) to arrange said blanks (2) in series and feed them successively through said work station (45).

10) A method as claimed in Claim 9, wherein said path (P1) extends between an unwinding pin (63) for
20 unwinding a said reel (61), and a rewinding pin (64) for forming a new reel (61).

11) A method as claimed in Claim 1, wherein said work station (45) comprises at least one printing station (71) where graphics (72) are printed on each said blank
25 (2).

12) A method as claimed in Claim 11, wherein said work station (45) comprises at least one lacquering station (74).

13) A method as claimed in Claim 1, wherein said work station (45) comprises at least one station (75) for applying at least one additional identification element to each said blank (2).

5 14) A method as claimed in Claim 1, wherein said work station (45) comprises at least one station (75) for applying at least one spot of hot glue to each said blank (2).

15) A unit for handling and processing blanks (2) for packing tobacco articles, the unit (1) comprising a
10 line (9) for feeding blanks (2) along a given path (P1); at least one work station (45) located along said path (P1) and for subjecting each said blank (2) to at least one processing operation; first pickup means (26) for
15 removing groups (5; 61) of blanks (2), arranged in groups (5; 61) in a given arrangement in a storage area (3), from the storage area (3), and feeding them onto said line (9) upstream from said work station (45); and second pickup means (28) for removing said blanks (2) in groups
20 (5; 61) from said path (P1) downstream from said work station (45), and feeding them, formed into a given arrangement, to said storage area (3); the unit (1) being characterized in comprising a number of pallets (4) supporting said blanks (2) in said storage area (3),
25 which comprises an unloading area (11), which is engaged by said first pickup means (26), is located at an input end of said path (P1), and receives an initially loaded first said pallet (4a); and a loading area (13), which is

engaged by said second pickup means (28), is located at an output end of said path (P1), and receives an initially empty second said pallet (4b).

16) A unit as claimed in Claim 15, and also
5 comprising ordering means (35, 38; 63) located along said path (P1), upstream from said work station (45), to arrange the blanks (2) in each said group (5; 61) into a succession of individual blanks (2); and regrouping means (47, 52; 64) located along said path (P1), downstream
10 from said work station (45), to re-form said groups (5; 61).

17) A unit as claimed in Claim 16, and also comprising a conveyor (41) extending through said work station (45); each said group (5; 61) comprising a number
15 of blanks (2) superimposed to form a stack (5); and said ordering means (35, 38) extracting said blanks (2) one at a time from the relative said stack (5), and depositing the blanks (2) on said conveyor (41) in an orderly succession of individual blanks (2).

20 18) A unit as claimed in Claim 17, wherein said ordering means (35, 38) comprise a fixed hopper (35) having an input (34) for said stacks (5) and a bottom output end; and a suction member (38) movable cyclically past said bottom output end.

25 19) A unit as claimed in Claim 18, wherein said suction member (38) comprises a drum (38) rotating about a respective axis (39) and having at least one suction sector (40).

20) A unit as claimed in Claim 18, wherein said drum (38) is tangent to said bottom output end of said fixed hopper (35) and to said conveyor (41).

21) A unit as claimed in Claim 16, wherein said
5 regrouping means (47, 52; 64) are stacking means comprising braking means (52) for braking the blanks (2) coming off said conveyor (41), and substantially positioning them on edge; at least one container (50) for receiving the on-edge said blanks (2) and forming, inside
10 it, a stack (5) of said blanks (2); and a conveyor unit (55) for receiving said stacks (5) of blanks (2) from said container (50).

22) A unit as claimed in Claim 21, wherein said braking means (52) comprise a fixed plate (52) sloping
15 downwards and located at an output end of said conveyor (41) to receive said succession of individual blanks (2); said container (50) having an open end, and being movable, in a given travelling direction, between a loading position, in which said open end is aligned with
20 said fixed plate (52), and an unloading position, in which said open end faces downwards towards said conveyor unit (55).

23) A unit as claimed in Claim 22, wherein said container (50) comprises a lateral wall, at the front in
25 said travelling direction, defined by a hatch (51), which is movable between a normal closed position and an open position respectively closing and opening the side of the container (50).

24) A unit as claimed in Claim 21, wherein said regrouping means (47, 50) comprise a drum (48), and a number of said containers (50) projecting radially from said drum (48), which is mounted to rotate in steps about
5 a respective axis (49) to move a said container (50), at each step, from a position aligned with said braking means (52), to a position facing said conveyor unit (55).

25) A unit as claimed in Claim 15, wherein each said group (61) comprises a reel (61) of a strip (62) defined
10 by a number of blanks (2) arranged in series and connected to one another; said ordering means (63) and said regrouping means (64) comprising an unwinding pin (63) for unwinding said reel (61), and, respectively, a rewinding pin (64) for receiving said strip (62) and
15 forming the strip (62) into a new reel (61); said path (P1) extending between said two pins (63, 64), and guide means (67) being provided to guide said strip (62) along said path (P1) and through said work station (45).

26) A unit as claimed in Claim 15, wherein said work
20 station (45) comprises at least one printing station (71) where graphics (72) are printed on each said blank (2).

27) A unit as claimed in Claim 26, wherein said work station (45) comprises at least one lacquering station (74).

28) A unit as claimed in Claim 15, wherein said work
25 station (45) comprises at least one station (75) for applying at least one additional identification element to each said blank (2).

29) A unit as claimed in Claim 15, wherein said work station (45) comprises at least one station (75) for applying at least one spot of hot glue to each said blank (2).